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Mr. Chairman, Members of the Committee, thank you for the opportunity to come before you to discuss the condition of the facilities and infrastructure of our vital nuclear weapons complex.

INTRODUCTION

During my confirmation hearing before the Senate Armed Services Committee last May, I posed the question, "Are we under invested in facilities?"- to which I replied, "I am rather certain of that answer, by the way." Mr. Chairman, today I am positive of the answer: we are under invested, and by a lot.

In July 2000, I had the opportunity to testify at the Hearing of the Special Oversight Panel on Department of Energy Reorganization, House Armed Services Committee. I made several points then which I would like to reiterate today. Mr. Chairman, Members of the Committee, I am the full-time advocate for the mission of the NNSA. As such, I understand that my responsibility is to be balanced and report the condition of my organization to the Congress. I appreciate that I have this opportunity today to provide you with my understanding of the conditions of the nuclear weapons complex.

This is not a new story, nor is it a new issue. Brigadier General Gioconda has testified before this committee last year regarding our deteriorating facilities and infrastructure. As I will present in this testimony, the complex has been studied extensively, both inside the Department of Energy as well as outside. All have reached similar findings and the case is clear: the physical complex requires attention and we must act soon, because it is unprofessional, it's inefficient, it's wasteful of resources, it's potentially dangerous, and it sends exactly the wrong message to the professionals we want to attract and keep in this endeavor.

Mr. Chairman, since assuming the challenging responsibilities as Administrator of the NNSA, I have traveled throughout the complex. My purpose was to reacquaint myself with the places where I had served earlier in my career, and, more importantly, to visit the entire complex - to learn first hand of the missions now executed by our intelligent, thoughtful and dedicated workforce.

What I found, I must confess, was remarkable. Almost half of our structures are over 50 years old. Now, when I crossed the 50-year barrier, I knew that I was mature, but not old. But our 50-year-old structures are old - old in the sense of safety, security, reliability, and mission effectiveness. Many facilities do not meet modern health, environmental, or energy conservation standards. They are costly to maintain, and difficult to keep in regulatory compliance. It is in such facilities we ask some of the most brilliant scientific and technical minds and some of the most productive people in the country to work. I brought along some pictures to share with you which I believe graphically portray these issues. During my visits I was struck by what appeared on the surface to be a reasonably well functioning set of operations performed by the women and men of the Department of Energy's NNSA. However, it

takes little to soon notice that something is amiss. In both scientific and production operations, one frequently finds activities that should be closely connected by time and space, but are separated by space and, in some cases, buildings. When questioned, the answers begin to describe “work-arounds.” There is great pride among the teams of federal and contract workforce that execute the national security missions assigned. The ingenuity employed by these people to overcome antiquated facilities astounds. But frankly, we must help reduce these impediments. At some point, a failure directly attributable to the condition and age of these facilities will result in a costly, embarrassing, and possibly fatal incident that will harm our national security. While I cannot predict exactly when - it will almost certainly be sooner rather than later.

I have documented age. Let me now discuss the condition of our facilities and infrastructure. It should be unremarkable that if one combines the lack of attention with the considerable age of the complex, the result is a deteriorating physical infrastructure. Studies show that the rate of deterioration of our nuclear weapons complex is accelerating. Recently, Defense Programs conducted an assessment of the condition of the complex. During the time period centered about 1995, roughly 56% of the complex was found to be in an either excellent or good condition. Five years later, a comparable assessment was conducted by many of the same people who had performed the first one. Their finding: facility conditions in the excellent to good range had declined to 26%, while those in the adequate to fail categories had soared to over 70%. Here then is another benchmark that describes the nuclear weapons complex, acceleration is added to the calculus of the deteriorating nuclear weapons complex.

A fair question at this point is “How did we get this way?” The question is correct, simple, and beguiling. The answer, however, is complex. For too long a time, as a result of other priorities, we have underinvested in our facilities, infrastructure, and their maintenance and recapitalization. In the recent past, the priority has been properly given to ensuring the success of the Stockpile Stewardship Program. Attention to the infrastructure was put on hold while the science based stewardship program was formulated, funded, took hold, and is now working. It is now time to refocus on the physical complex which houses the Stockpile Stewardship Program.

Our facilities require attention. Others have found, as we have, concerns regarding the condition of the complex. I will share some of these observations and also provide greater depth from our own study. Today, improving the facilities and infrastructure of the NNSA is a high priority, but we need your help. The Secretary and I are prepared to work with you to this end. On my end, I have a detailed plan of how to proceed, which unfolds throughout this testimony. Dollars alone, while vital, are only one part of the solution. As significant, possibly more, is my plan to bring focus, process, rigor and accountability to our work of recovering our facilities and infrastructure. Facility management is a standard business practice of most major organizations. It is being reengineered within the NNSA. We are establishing an office to manage the facilities and infrastructure of the nuclear weapons complex. We are refocusing on long term planning, establishing the processes - absent too long - that will institutionalize the procedures, standards and expectations for the complex.

Mr. Chairman, I have included an appendix to this portion of my testimony. I ask that you carefully read through it. I believe that the information provided in the appendix is important because I make the case concerning the condition of our facilities and infrastructure. As you know, the Department of Energy's nuclear weapons complex has been analyzed and studied by a number of qualified, interested, and independent forums. I have summarized the key studies for you. As you will see, the terms may be somewhat different, but the conclusions they draw about the condition of our facilities and infrastructure are strikingly similar.

I start by introducing two seminal studies from the recent past: our Defense Programs Facilities and Maintenance Study, Phases I & II, of May 1998, and the externally conducted Office of the Secretary of Defense (OSD), Program Analysis and Evaluation (PA&E) Review of April 2000. I then cover in some detail our own internal analysis, the Defense Programs Facilities and Infrastructure Assessment 2000 - Phase I. I continue with an explanation of how we are building process - facility management - as Phase II of this Assessment 2000. In addition, I present evidence of the continuing interest in the status of the complex by some very impressive outside entities. Once you have gone through the appendix, I believe that you will have a comprehensive picture of the status of the nuclear weapons complex as seen by the NNSA and the interested stakeholders outside the NNSA. One thing is clear to me based on my understanding of the evidence at hand - the facilities and infrastructure need attention now. I believe that this committee can help. I have crafted a Recapitalization Initiative that begins the turnaround. And finally, I submit my conclusion.

FACILITIES AND INFRASTRUCTURE RECAPITALIZATION INITIATIVE

In the aforementioned appendix, I have discussed the condition and resource needs of the nuclear weapons complex in some detail. To start the financial recovery, NNSA has crafted a Recapitalization Initiative. This will allow the NNSA to be able to rapidly respond to any budgetary support which may develop in the future. As you know, the base maintenance and infrastructure efforts at our sites are primarily funded within the budget for Readiness in Technical Base and Facilities and through site overhead allocations. These efforts focus on ensuring that facilities necessary for immediate programmatic workload activities are maintained sufficiently to support that workload.

Sustained, incremental preventive and other maintenance, and infrastructure investments above this base are needed to extend facility lifetimes, reduce the risk of unplanned system and equipment failures, increase operational efficiency and effectiveness, and allow for recapitalization of aging facility systems. The Recapitalization Initiative will address such issues. The initiative as proposed will address an integrated, prioritized list of maintenance and infrastructure activities that will significantly increase the operational efficiency and effectiveness of our sites. This complex-wide integrated priority list of over target requirements, the Prioritized Project Listing, is a first ever for the NNSA and Defense Programs. It will ensure accountable execution of near term improvements across the complex, based on overall

mission requirements. The Recapitalization Initiative projects are updated semi-annually. All sites generate a prioritized listing of Recapitalization projects as part of their Ten-Year Comprehensive Site Plans. NNSA evaluates descriptions of scope, justification, and estimated costs for proposed recapitalization projects, and integrates them into a single prioritized list that becomes the basis for program planning, budget requests and program execution. Once funding is appropriated, the priority list will again be checked to assure that no higher or more urgent priorities have surfaced. During budget execution, funded Recapitalization projects will be authorized, managed and tracked through the work authorization process. The visibility afforded by this dynamic process will provide responsible budget estimates, assure that the most urgent Recapitalization needs are met in each year, and focus accountability for each project undertaken.

The current plan for this initiative continues through a five year period, and is a modular approach. Specifically, whatever the funding level, the most urgent non-line item projects are worked off the Prioritized Project List. The program is designed to stabilize the infrastructure, and then shift the facilities and infrastructure funding and business practices back to the base programs at the end of the Recapitalization Initiative.

The goals of the Recapitalization Initiative are:

- To increase the operational readiness of facilities;
- Reduce non-productive facility downtime and high costs associated with unplanned and/or corrective maintenance;
- To arrest the continuing deterioration of facilities by reducing maintenance backlogs;
- To extend the useful life of current facilities,
- To reduce the excess facility and structure inventory by removal of non-radioactively contaminated structures.

CONCLUSION

Mr. Chairman, Members of the Committee, I believe that this is a fair statement of where we are today. In my view, I am building the correct organization within the Department of Energy's NNSA to grapple with these tough problems. To underscore my testimony, I have brought along copies of our study and of the pictures mentioned herein. In sum, we have a complex that is old and that is deteriorating as we speak. The condition of the complex is known to many of you, discovered on your frequent trips to the sites. I believe that we are forging, for the first time, a facility management process that will husband economically the resources entrusted to us by the Congress. At the same time business as usual will eventually threaten this vital national defense program.

Thank you for the opportunity to tell you our facilities and infrastructure story. I will now take any questions you may have.

TESTIMONY APPENDIX

The following contains information derived from previous studies, which have looked into the condition of the state of the facilities and infrastructure of the National Nuclear Security Agency's nuclear weapons complex. Recently, Defense Programs concluded their seminal baseline assessment and it is also included here. This study is the basis for the current actions within NNSA that are dedicated, for the first time, to creating a facilities management process designed to efficiently manage the resources entrusted to the NNSA for improving the condition of the complex. Finally, two studies that were underway at the same time by outside panels are provided. This demonstrates that the concern for the nuclear weapons complex continues to exist within influential segments of the national security community.

DP FACILITIES AND MAINTENANCE STUDY PHASES I & II, MAY 1998 EXECUTIVE SUMMARY

- Ninety seven percent of the facility area needed to support the assigned mission is being maintained in the full-up Operational category. The remaining three percent of the facilities are in the Operational Standby, Reserve, and New Construction categories. This full-up readiness does not appear to be consistent with the current capacity requirements reported in the mission assignment studies and reflects a lack of DOE guidance to use a graded degree of operational readiness.
- The 1997 reported maintenance costs for the laboratories and the production sites total \$267.5 M. The overall ratio of maintenance funding to Replacement Plant Value (RPV) averages 1.5% which is lower than the 2-4% range recommended in the commercial sector, the General Accounting Office (GAO), and the Building Research Board of the National Research Council. Programmatic equipment maintenance is, for the most part, not addressed.
- Maintenance budgets have declined 25% over the past four years. This combined with the increase in square footage from new construction and the lack of guidance to move facilities into a lesser degree of readiness category is severely affecting the abilities of the respective site maintenance organizations to provide an effective maintenance program.
- Facilities have been declared excess to the DP assigned mission with dates starting in 1997 and continuing for the next ten years. While excess dates have been reported and some tentative disposition dates advanced, the costs associated with the disposition actions are largely unknown. The whole issue of disposal dates and costs will remain open until guidance is provided for disposal, establishment of disposition dates and disposition end states, timing and availability of funding.
- Sixty five percent of the excess facilities are currently in use. The date a facility has been declared excess and the date disposition actions are initiated is not necessarily the same and in fact may be separated by several years or even decades. There appears to be no relief in

reduction of maintenance costs from the excess facility arena as the maintenance of excess space currently in use will continue for the foreseeable future.

- The total backlog costs reported are \$725 M.
- The consensus of the M&Os operating the sites is that the RPV provided in the Facilities Information Management System (FIMS) database does not reflect a true replacement cost and only addresses facilities. The accuracy of the RPV should be of reasonably good quality if it is intended to be used as a measurement tool for replacement cost estimates.
- The facility management program is not coordinated at the Headquarters level nor at the field office level to provide a consolidated and integrated approach of the facilities issues with line management. There are isolated pockets of information for the various functional areas but no coordinated effort.
- The current condition assessment of the facilities in the operational footprint shows that 72% of the facilities range between excellent and adequate with the majority of the assets in the good category. The condition assessment of the infrastructure shows that the majority of the assets are in the adequate to fair category with a few exceptions in the good category. This difference in condition reflects a lack of priority in maintenance of the infrastructure supporting mission operations.
- The average age of the facilities at the laboratories and production sites determined from construction history is: 1940s 25%, 1950s 17%, 1960s 24%, 1970s 9%, 1980s 13%, 1990s 12%. At least 66% of the facilities are 25 years or older. The design life for most government facilities is 25 years. The effect of the aging and deterioration of these facilities is reflected in the \$725 M backlog of maintenance and repair.
- Some “plus-up” funding has been provided but it has not provided a significant impact on the reduction of the backlog. The lack of funding for reduction of backlog was a primary concern expressed at all of the sites. The deferral of corrective maintenance and a lack of similar funding in the 1970s led to a \$2.2 B facilities and equipment restoration program in the early 1980s.

OSD PROGRAM ANALYSIS AND EVALUATION REVIEW, APRIL 2000

A summary of observations on DP's manufacturing infrastructure indicate that:

- Anticipated workload will require an expansion of current capacity;
- Regardless of workload, indefinite maintenance of the nuclear stockpile will require an investment in the DP manufacturing infrastructure of some \$7B over 18 years;
- If DP stays within a \$4.5B annual budget, the above investment would require a reduction in the

science budget;

- Tradeoff analyses between DP's science program and its manufacturing infrastructure, or within each of the two, are complicated by the lack of a DP multi-year plan.

DEFENSE PROGRAMS FACILITIES AND INFRASTRUCTURE ASSESSMENT REPORT SUMMARIZED

At the direction of the Secretary of Energy in October 1999, the Department concluded a 30-day review of the Stockpile Stewardship Program in November 1999. The Department developed a 15 point action plan as a result of the findings. One of the key points, "The Department will develop a plan for long-term recapitalization of the facilities in the nuclear weapons complex" prompted BG Thomas Gioconda, then acting Assistant Secretary for Defense Programs, to satisfy this requirement by directing that an assessment be conducted of the Defense Programs facilities and infrastructure. I am providing, in some depth, the findings of this study because it establishes the condition of the complex, determines the cost of DP's facilities and infrastructure business and speaks to the cost of recapitalization for the complex. What follows, I believe, is impressive.

OVERVIEW

The nuclear weapons complex, except for the newest experimental facilities, consists of production, testing, and laboratory facilities, which are very old and in need of intensive and ever escalating maintenance. During the previous 7 years, the DOE devoted the bulk of a flat budget to establishing the scientific backbone for the Stockpile Stewardship Program. The concentration of funding primarily on the science aspects of the Program has contributed to the neglect of aging facilities and infrastructure, the acceleration of their decline, and has resulted in an enormous maintenance backlog legacy.

A 1999 review of the Stockpile Stewardship Program, mandated by the Under Secretary of Energy, recommended that the DOE develop a plan for long-term recapitalization of the facilities in the nuclear weapons complex. As a first step in the planning process, Brigadier General Thomas Gioconda, Acting Deputy Administrator for Defense Programs, National Nuclear Security Administration, directed that a detailed Assessment be conducted of the facilities and infrastructure (F&I) supporting Defense Programs nuclear weapons complex. To fulfill the Deputy Administrator's direction, a team comprised of Defense Programs (DP) F&I subject matter experts, located at headquarters and at field sites, was assembled.

The approach adopted by the team was to divide this important effort into two phases. The objective of Phase I was to obtain an accurate snapshot of the current state of the complex infrastructure and the cost of doing business. This was accomplished by issuing a data call to the eight DP Sites: Kansas City Plant, Lawrence Livermore National Laboratory, Los Alamos National Laboratory, Sandia National Laboratory, the Nevada Test Site, Oak Ridge/Y-12, Pantex, and the Savannah River Site. The objective of Phase II, currently underway, is to develop a common approach to facility and infrastructure

management, as well as, develop a Facilities Management Process Plan that integrates F&I requirements, management expectations, Headquarters and Field functions, and will provide safe, secure, reliable, and sustainable facilities.

Phase I of the Assessment provided several important results: an integrated baseline of the condition of the entire complex infrastructure; a clear picture of the cost of maintaining the F&I constellation; and a prioritized maintenance and modernization list, integrated across the complex, of the most pressing infrastructure needs.

PHASE I

The Phase I data call was developed to help determine the full cost of DP's F&I business. It was designed to accomplish two things: portray an integrated timeline of ongoing, planned, and required construction, modernization, and major maintenance projects; and profile current F&I funding requirements across the Complex. The funding requirements were to be reported as: actual expenditures for FY 98 and FY 99, funded and unfunded requirements for FY 00 through FY 02, and the expected requirements for FY 03 through FY 08. The framework for this data was the Stockpile Stewardship Program (SSP). Crucial to this effort was the requirement that the data tendered come from existing, accountable sources (e.g., DP 10-Year Site Plans, etc.). The information from Phase I provides a focused input to the FY 02 budget process when sizing the recapitalization of DP facilities and infrastructure. Since the methods of accounting differ between the laboratory and production programs, comparing the two is difficult. The production programs use direct funding methods, while the laboratory programs account for funding with both direct and indirect methods. (Direct funding is funding that is appropriated by Congress to conduct specific work. Indirect funding is funding that is derived by a tax or charge on direct funds and is normally allocated across multiple users.)

The data call's guidance utilized standardized definitions from existing DOE directives to help the respondents properly categorize their figures while accounting for both direct and indirect costs. This information and the architecture of the data call have a linkage to the budget and to the Stockpile Stewardship Program. The call requested facts about each of the site's facilities and infrastructure needs separated into categories for Maintenance, Capital Equipment, Line Items, General Plant Projects, Disposition of Excess Real Property, and Expense Funded Projects. Funding information from FY 98 through FY 08 was also requested for each included project.

RESULTS OF PHASE I

Overall, the studies determined that the deteriorating condition of the Complex is not a new problem. It has been recognized, studied, and documented many times over the last decade. The facilities in the

production complex are old and are deteriorating, largely due to historical under-investment in recapitalization and maintenance.

Although maintenance funds are in short supply, DP is maintaining more production space than it requires and a large inventory of facilities that are no longer needed by the Stockpile Stewardship Program. Disposing of these excess facilities has proven to be problematic. Facility disposition includes the dismantlement and removal of deactivated facilities and infrastructure that are not radiologically contaminated and are excess to current and future mission requirements. These actions are taken at the end of the life of a facility to retire it from service, with adequate regard for the health and safety of workers and the public protection of the environment. These actions will improve our ability to manage the facilities portfolio and reduce long-term costs.

Numerous studies, reviews, and Site plans for the past 9 years have pointed out the problem of the deteriorating complex. Many reasons why the DOE did not act on the findings and recommendations are extant. Prime among them was the scarcity of F&I funds due to higher priority programmatic objectives (science over bricks and mortar). The costs of constructing and operating new science-oriented facilities compete for the funding available for deferred maintenance in the rest of the complex. The figure representing the cost of reducing the deferred maintenance backlog coupled with the substantial costs of decontamination and disposal grew to such an imposing number that it was easier to defer than to take action. Funds slated for attacking the maintenance problem were often redirected to respond to more urgent unfunded mandates (security, safety, environment, etc.).

AGE

The majority of the facilities reported in the Complex are 40 years and older. These facilities do not meet modern standards, especially in the area of energy conservation. The overall efficiency of the facilities is low because the facility was not originally designed for the mission/use currently being executed. In a number of instances where upgrades have been made to accommodate new or modified missions the function is consolidated in a portion of the facility and sits in the midst of surrounding empty and unused space.

CONDITION OF THE COMPLEX

A DP study, focused on the time period centered about 1995, reported that the complex was reasonably healthy. At that time, the Sites reported that 56% of the Complex was in either “excellent” or “good” condition. The 2000 F&I data call portrays significant deterioration in the Complex. These data

now capture a Complex that is only 26% “excellent” to “good” with over 70% in an “adequate” to “fail” condition. The current Assessment indicates that the declining condition of the Complex is growing worse. Funding has not been sufficient to solve the backlog problem and stem the steady decline. A stagnant budget (in the past and anticipated for the future), a focus on science at the expense of infrastructure, an increasingly more stringent regulatory climate (with many unfunded mandates), and inflation have all contributed to a dramatic downturn in the condition of the Complex.

FACILITY AND INFRASTRUCTURE COSTS

During the period FY 98 through FY 02 the average annual funded level of spending on F&I will be \$1.3 billion. However, requirements will average approximately \$2.1 billion per year for the time period FY 03 through FY 08. To compound the problem, unfunded (priority) requirements are increasing at a rate of about \$200 million per year.

EXCESS FACILITIES

A drain on F&I resources exists in the excess facilities category. These are facilities that are no longer in use because of mission change or reduction in the size of the Complex and are generally in poor condition. These facts describe the situation:

- A sizeable number of facilities are waiting to be disposed of.
- Most are in poor condition.
- The expense to maintain them in a holding pattern is relatively small but growing.
- The costs for large-scale facility disposal will be great, but are currently not estimated.
- Should a catastrophic environmental, safety, or health event occur, recovery will be expensive and the potential for unfavorable press will be unavoidable.
- Responsibility for disposing of these facilities resides with Environmental Management.
- Defense Program’s current strategy of maintaining excess facilities with minimal maintenance and surveillance, at low cost, has run its course.

SUMMARY AND CONCLUSIONS OF PHASE I

This initial assessment is indisputable -- the nuclear weapons complex is old, the infrastructure, a necessary part of the complex, has been neglected, and its maintenance is not funded adequately. In

addition, facilities management is fragmented, is without uniform standards, and in difficult times has served as the bill payer for higher priority science and production programs across functional areas. For example:

- Over half the facilities entered the inventory prior to 1960.
- FY 03 – FY 08 requirements total \$2.1 billion/year – under funded by some \$800 million annually.
- Unfunded priority requirements are increasing by about \$200 million/year; and over \$500 million of urgently needed, yet unfunded, F&I projects are extant.
- F&I conditions continue to deteriorate – CY 1995, 57% of facilities were in either excellent or good condition, while in CY 2000, the same facilities fell to 27% in these condition categories.
- Annual maintenance is under funded – Comparable industrial facility managers fund from 2% to 4%, and in some cases 8% of replacement plant value (RPV) to maintain facilities. Defense Programs averaged below 1.5% RPV for over the past decade to maintain the complex.
- Preventive maintenance and recapitalization required to maintain DP's investment and support program requirements are significantly under funded.

The DP Phase I Facilities and Infrastructure Assessment indicated that the declining condition of the Complex is growing worse. Funding has not been sufficient to solve the backlog problem and stem the steady decline. A stagnant budget (in the past and anticipated for the future), a focus on science at the expense of infrastructure, and increasingly more restrictive regulatory climate (often with unfunded mandates), and inflation have all contributed to a dramatic downturn in the condition of the Complex.

PHASE II

Phase II of the Facilities and Infrastructure Assessment commenced August 2000, and set out to “develop a plan for long-term recapitalization for the facilities in the nuclear weapons complex.” Using the database developed in Phase I, the approach for Phase II is to build on existing processes while identifying the central issues to be resolved, and develop appropriate metrics by which to measure progress.

To date, a dozen major tasks have been identified for action by using Six Sigma methods of analyses. These tasks include establishing and validating policy; developing consistent planning processes- both tactical and strategic; reengineering facility stewardship; implementing procedural improvements; and developing budget guidance that highlights F&I concerns and establishes accountability. I have here a briefing of our Facilities and Infrastructure Assessment which explains in more detail these tasks which

bring focus, process, rigor and accountability to our work of recovering our facilities and infrastructure. I would request that one of my senior staff members brief you or your staffs at your convenience to provide a more comprehensive explanation of our efforts than I have time to do now.

RECENT REVIEWS SUMMARIZED

While Defense Programs was aggressively coming to grips with the actions necessary to improve the condition of the complex, others were independently studying the complex and not too surprisingly drawing similar conclusions. Dr. John S. Foster chaired a “Panel to Assess the Reliability, Safety, and Security of the United States Nuclear Stockpile”. The findings of this panel echo those put forth by Defense Programs. In addition, General John M. Shalikashvili, serving in his role of Special Advisor to the Secretary of State, issued findings and recommendations related to the Comprehensive Test Ban Treaty. His pointed recommendations also warn of the impact of existing conditions at the manufacturing plants and the consequences should nothing be done. Key findings of both panels are provided below.

THE FOSTER PANEL

The 1999 Strom Thurmond Defense Authorization Act created the Panel to review and assess (1) the annual process for certifying stockpile reliability and safety, (2) the long-term adequacy of that process, and (3) the adequacy of criteria to be provided by the Department of Energy for evaluating its science-based Stockpile Stewardship Program.

Recommendations:

- **Production complex**

Restore missing production capabilities and refurbish the production complex. The decline of the nuclear weapons production complex must be reversed with a 10-year program to eliminate critical maintenance backlogs and gaps in stockpile repair and replacement capabilities, requiring investment on the scale of \$300 to \$500 million per year. In addition, ongoing work on small-scale pit production capabilities and the certification of newly manufactured pits must be pursued with urgency. Work also must begin on the conceptual design of adequate nuclear facilities for the long-term support of the stockpile.

- **Plans, programs, and budgets**

Implement a realistic plan, schedule, and multi-year budget for the Stockpile Stewardship Program, agreed to by the Nuclear Weapons Council. The new NNSA Future Years Plan (FYP) should provide, with the Defense Department’s agreement, a realistic multi-year program to sustain confidence. Congress should support realistic budgets and provide NNSA flexibility to manage to this program. The Defense and Energy Departments should partner in a revised Nuclear Posture Review addressing the makeup of the future nuclear stockpile, and assessing DoD’s requirements on NNSA to support that stockpile, including infrastructure and hedge strategies.

The Panel also visited some of the forty- and fifty-year old production facilities at the Pantex, Oak Ridge Y-12, and Kansas City plants where weapons work is being done with aged equipment, employing

health and safety practices that have been grafted onto the work flows of these outmoded facilities. Only a very small amount of design and production work is actually being performed. For at least a decade, these facilities have been permitted to spend only the minimal amounts needed to sustain operations for the tasks at hand. Consequently, independent DOE and DoD studies that find the production complex is incapable of meeting future stockpile requirements. In the coming decade, some \$3 to \$5 billion will be needed to remedy this situation. The DOE reports a maintenance backlog of \$700 to \$800 million. Additionally, there is a need for \$300 to \$500 million per year for up to ten years for recapitalization to restore the capability to meet workloads.

In summary, production managers across the complex describe their situation as an impending disaster. They warn that the current approach is pushing their facilities toward failure, and that the current program does not enable them to hire and train a new generation of workers. They hold the following:

- **Restore the capability to support needed weapons work**

Managers within the complex are concerned that the deterioration of the physical facilities is accelerating. For some of these deteriorated 40 to 50 year-old facilities it may be more cost-effective to build replacement capabilities. Yet, there is no agreed upon plan or program in place for addressing the complex-wide backlog of critical maintenance requirements. The NNSA must take the lead in defining a long-term program for reversing these trends. NNSA must:

- Plan and execute a ten-year program to restore needed production capabilities. The DOE reports a maintenance backlog of some \$700-\$800M. Additionally, there is a need for \$300-\$500M/yr for some ten years for recapitalization to ensure that the production complex will be able to meet both current and future workloads.

- **Restore nuclear facilities adequate to long-term needs**

The nation must be prepared to address problems that may arise in the nuclear components of stockpiled weapons. NNSA should begin a time-phased program to design and build the critical nuclear facilities needed to have a complete capability to produce and refurbish nuclear components. These include facilities for pit production, secondary production, and some upgrades at the nuclear laboratories.

THE SHALIKASHVILI REPORT - 2001

Recommendations:

- Working with the Department of Defense, other Executive Branch agencies, and the Congress, the Administrator of the NNSA should complete as soon as possible his comprehensive review of the Stockpile Stewardship Program. The review will clarify objectives and requirements, set priorities, assess progress, identify needs, and develop an overarching program plan with broad-based support.
- A dedicated infrastructure revitalization fund should be established after the NNSA has completed a revitalization plan for its production facilities and laboratories.